



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/563,314 | 08/01/2006 | Siew Kim Lee | DAIRY88.015APC | 6941 |

20995 7590 04/20/2009
KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

| |
|----------|
| EXAMINER |
|----------|

KRAUSE, ANDREW E

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1794

| | |
|-------------------|---------------|
| NOTIFICATION DATE | DELIVERY MODE |
|-------------------|---------------|

04/20/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com
eOAPilot@kmob.com

| | | | |
|------------------------------|--------------------------------------|-----------------------------------|--|
| Office Action Summary | Application No. 10/563,314 | Applicant(s) LEE ET AL. | |
| | Examiner ANDREW KRAUSE | Art Unit 1794 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 21 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/21/09</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Listing of Claims

1. Claims 1-19 and 21 remain pending. Claims 4, 12 and 19 are amended.

Response to Amendment

2. The objections to claims 4 and 13 have been overcome by amendment.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1-9,11, 16-19, 21** are rejected under 35 U.S.C. 102(b) as being anticipated by Invernizzi (US 4,194,011).

4. Invernizzi discloses a process for preparing a cheese product (abstract) comprising;
 - a. Providing a dairy starting material from a retentate of ultrafiltered milk(column 2, lines 44-55);
 - b. Adjusting the pH to 5.9-6.2 (column 2, lines 44-45);
 - c. Subjecting the material to a cooking step, for example of 15 seconds at 72 C (column 3, lines (40-41);
 - d. Adding an acidifying lactic acid bacterial culture, and acid thereby adjusting the pH (column 4, 12-24), which produces cheeses with a final pH of 4.6-4.7 (column 3, lines 50-54);

- e. Packing the product while warm (liquid) (column 4, lines 20-25), and being placed in conditions where the mixture can set to form a final cheese product (column 6, lines 31-41);
5. the steps being carried out without removing whey, which is further evidenced by the homogenization of the entire mixture following heat treatment and before packing (column 5, lines 30-40).
6. **Regarding claims 4-7**, Invernizzi discloses using a starting material having 6.4-7.2% casein, and a ratio of whey to casein of 0.25-0.11 (column 4, lines 60-67).
7. **Regarding claim 11**, the addition of acid achieves a pH of 4.7 (column 3, lines 52-53).
8. **Claims 1,2,19,21** are rejected under 35 U.S.C. 102(b) as being anticipated by Bodor (US 6,217,917).
9. NPL 1(USFDA pH of food products) and NPL 2 (Handbook of Milk Composition) are provided as evidence.
10. **Regarding claims 1-4,16-19,21**, Bodor discloses a process for preparing a cheese (column 1, lines 13-14) comprising the steps of;
 - f. Providing milk or cream (dairy products which comprise casein and undenatured whey protein) (column 6, lines 25-28)
 - g. Acidifying the milk or cream to a pH of 5.0 (column 6, lines 25-28, 47-50)
 - h. Subjecting the material with the desired pH to a cooking step (column 6, lines 29-31)

- i. Adjusting the pH of the cooked product by adding cream (pH of about 6.5, see NPL 1) to the cooked cheese product (column 7, lines 29-33).
 - j. and packing the product and storing at chill temperatures to form a rigid final product (column 1, lines 49-53).
11. The addition of the pH 6.5 cream to the pH 5 acidified dairy will result in a cooked product with a pH between 4.5-7.5.
12. The rigidity is not obtained until the cooling step, therefore the other steps must occur while the product is still liquid.
13. Bodor discloses this process wherein the product is formed without removing whey, as the whey is optionally removed from the product (column 6, lines 55-56), and therefore the product is also optionally formed without removing whey.
- 14. Regarding claim 3,** Bodor discloses using skim milk as the starting material (column 6, lines 35-45).
- 15. Regarding claim 4,** as evidenced by NPL 2, the ratio of whey protein to casein in milk is about 6.3:29.5, or 0.21.
- 16. Regarding claim 5,** as evidenced by NPL 2, the milk will contain about 2.95% (w/w) of casein.
- 17. Regarding claims 16-18,** it is disclosed that a possible cooking time and temperature is 58 C for 5 minutes (column 6, lines 52-54).

Claim Rejections - 35 USC § 103

18. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

19. **Claims 10,12-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Invernizzi (US 4,194,011).

20. **Regarding claim 10**, Invernizzi discloses the process of claim 9, and starting materials with the pH adjusted to 6.2 (see above).

The only deficiency of Invernizzi is that the reference discloses a pH of 6.2 while the present claims require 6.3.

It is apparent, however, that the instantly claimed 6.3 and that taught by Invernizzi are so close to each other that the fact pattern is similar to the one in In re Woodruff, 919 F.2d 1575, USPQ2d 1934 (Fed. Cir. 1990) or Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed.Cir. 1985) where despite a “slight” difference in the ranges the court held that such a difference did not “render the claims patentable” or, alternatively, that “a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough so that one skilled in the art would have expected them to have the same properties”.

In light of the case law cited above and given that there is only a “slight” difference between the 6.2 disclosed by Invernizzi and the amount disclosed in the present claims, it therefore would have been obvious to one of ordinary skill in the art that the pH of 6.3 disclosed in the present claims is but an obvious variant of the 6.2 disclosed in Invernizzi, and thereby one of ordinary skill in the art would have arrived at the claimed invention.

21. **Regarding claims 12-15**, Invernizzi discloses the process of claims 9 and 11, but fails to explicitly disclose that the addition of acid after the cooking step achieves a pH of 5.0.

Invernizzi discloses that some cheeses produced by the method have pH's of 4.7 (see above).

Invernizzi carries out the acidification by fermenting the cooked product with lactic acid bacteria, which produce lactic acid, thereby altering the pH. It is recognized that the fermentation conditions are adjustable in order to achieve the desired character (i.e. the tang produced by lactic acid in the cheese) of the final product (column 4, lines 32-35). It is further noted that the fermentation conditions chosen depend on the type of cheese being produced (column 4, lines 52-54). Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the fermentation conditions, and thus the amount of acid produced and the pH of the final product in order to achieve an appropriate level of lactic acid flavor in the intended final product, since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. See *In re Boesch*.

22. **Claims 6-7,11-13** rejected under 35 U.S.C. 103(a) as being unpatentable over Bodor (US 6,217,917) as evidenced by NPL 1(USFDA pH of food products) and NPL 2 (Handbook of Milk Composition).

Regarding claim 6, Bodor discloses the process of claim 5, but fails to explicitly disclose that the casein content of the starting material is 3% (w/w). The only deficiency of Bodor as evidenced by NPL is that the reference discloses milk with a casein content of about 2.95% (w/w) while the present claims require 3%.

It is apparent, however, that the instantly claimed 3% and that taught by Bodor and NPL 2 are so close to each other that the fact pattern is similar to the one in *In re Woodruff*, 919 F.2d 1575, USPQ2d 1934 (Fed. Cir. 1990) or *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed.Cir. 1985) where despite a “slight” difference in the ranges the court held that such a difference did not “render the claims patentable” or, alternatively, that “a prima

facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough so that one skilled in the art would have expected them to have the same properties”.

In light of the case law cited above and given that there is only a “slight” difference between the 2.95% disclosed by Bodor and NPL 2 and the amount disclosed in the present claims, it therefore would have been obvious to one of ordinary skill in the art that the 3% disclosed in the present claims is but an obvious variant of the 2.95% disclosed in Bodor and NPL 2, and thereby one of ordinary skill in the art would have arrived at the claimed invention.

23. **Regarding claim 7**, Bodor discloses the process of claim 6, but fails to explicitly disclose that the casein concentration of the starting material is between 5-15% (w/w). Bodor discloses adjusting the protein content of the starting material based on the desired end product(column 6, lines 35-38), clearly establishing the the protein concentration (and thus the casein concentration) is a result effective variable. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the casein concentration of the starting material in order to adjust the taste and textural properties, as well as the nutritional content of the desired end product for the intended purpose, since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. See *In re Boesch*.

24. **Regarding claims 11-13**, Bodor discloses the process of claim 1, wherein the pH of the pH 5.0 product is adjusted following the cooking step by adding cream (pH 6.5). Although the amount added is not disclosed, it is obvious to one having ordinary skill in the art that this step will result in a final product having a pH of 5.0-6.0, based on the quantity of cream that is added to the cooked product to achieve the desired texture and flavor.

Response to Arguments

25. Applicant's arguments, see response, filed 1/21/09, with respect to all rejection(s) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly cited references.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW KRAUSE whose telephone number is (571)270-7094. The examiner can normally be reached on 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571)272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ANDREW KRAUSE/
Examiner, Art Unit 1794

/KEITH D. HENDRICKS/
Supervisory Patent Examiner, Art Unit 1794